



LEVEL 3 MARKING SCHEME

AUTUMN 2020

**LEVEL 3
FOOD SCIENCE AND NUTRITION - UNIT 1
4563UB0-1**

INTRODUCTION

This marking scheme was used by WJEC for the 2020 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

LEVEL 3 FOOD SCIENCE AND NUTRITION - UNIT 1

AUTUMN 2020 MARK SCHEME

SECTION A

Question	Answer	Marks						
1. (a)	Outline the difference between food safety and kitchen safety. Award 1 mark for a basic outline Award 2 marks for a detailed outline that refers to both Answers may refer to Food safety is concerned with the prevention of contamination of food being prepared; served; stored from pathogenic bacteria/allergens/viruses; is safe to consume Kitchen safety is concerned with the prevention of accidents/ ensuring a safe environment (slips; trips; falls; cuts; burns) prevention of hazards Accept any other similar wording	[2]						
(b)	Personal hygiene is one way of minimising food safety risks. Describe two other ways in which food safety risks can be minimised during food production. Award 1 mark for each basic description x2 Award 2 marks for each detailed description (maximum 2 marks per description) x2 <table><tr><th></th><th>Responses of how to avoid could include</th></tr><tr><td>Kitchen hygiene</td><td>Have floors, walls and work surfaces which are easy to clean Have designated hand wash and cloakroom areas Have high standards of waste disposal Ensure all bins are covered Have pest control e.g. insect-o-cutors, window mesh. Clean and check freezers and fridges regularly Clean as you go Sanitising work surfaces Accept any other relevant point</td></tr><tr><td>Food hygiene</td><td>Correct storage temperature (chilled under 5°C; Frozen under -18°C Keep food cool, clean, covered. Use of correct coloured chopping boards and knives e.g. red for raw meat Wash fruit and vegetables before use</td></tr></table>		Responses of how to avoid could include	Kitchen hygiene	Have floors, walls and work surfaces which are easy to clean Have designated hand wash and cloakroom areas Have high standards of waste disposal Ensure all bins are covered Have pest control e.g. insect-o-cutors, window mesh. Clean and check freezers and fridges regularly Clean as you go Sanitising work surfaces Accept any other relevant point	Food hygiene	Correct storage temperature (chilled under 5°C; Frozen under -18°C Keep food cool, clean, covered. Use of correct coloured chopping boards and knives e.g. red for raw meat Wash fruit and vegetables before use	[4]
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Question	Answer	Marks		
	<table border="1"><tr><td></td><td>Use a temperature probe to check core temperature of food (75°C) Check use by and best before dates Separate cooked and raw foods Prepare food as close to cooking and serving time as possible Cool or chill food rapidly so that it is out of the danger zone (5°C-63°C) where bacteria multiply rapidly Accept any other relevant point</td></tr></table> Also credit responses linked to staff training, awareness of correct regulations and protocols and legislation		Use a temperature probe to check core temperature of food (75°C) Check use by and best before dates Separate cooked and raw foods Prepare food as close to cooking and serving time as possible Cool or chill food rapidly so that it is out of the danger zone (5°C-63°C) where bacteria multiply rapidly Accept any other relevant point	
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2. (a)	Identify one group of people who may suffer from a lack of HBV protein in their diet. Award 1 mark for • Vegans / a vegan	[1]		
(b)	Give two dietary functions of protein in the diet. Award 1 mark per response For any two dietary functions. Protein is essential for: • Growth and repair (of body cells such as muscles /hair/nails- in children) • Maintenance (e.g. the production of hormones/enzymes/antibodies) • Essential amino acids allow metabolic reactions to take place • Protein can also be used to provide the body with energy once it has been used for its main functions of growth & repair.	[2]		
3. (a)	Name one good food source of potassium. Award 1 mark for Any one source from the following: • Bananas • Sweet potatoes • Prunes • Cooked broccoli/spinach • Mushrooms • White beans • Swiss chard	[1]		

Question	Answer	Marks
(b)	State one dietary function of potassium. Award 1 mark for Any one from the following. • It is needed for good cardiovascular health / regular heart beat • To maintain the correct concentration of body fluids/ helps to regulate water levels in the body • Helps encourage the kidneys to excrete excess sodium. • It works with sodium to help control muscles contractions and nerve signals. • can ease tension on blood vessel walls, which helps further lower blood pressure. • Low blood potassium levels can affect starting & stopping of muscle contractions (uncontrolled & prolonged contractions known as cramps).	[1]
4. (a)	Name one good food source of Iodine. Award 1 mark for Any one source from the following: • Sea foods (sea fish, shellfish and seaweed) • Milk (any dairy version of milk) • Spinach • Iodized salt	[1]
(b)	Outline the impact of an iodine deficiency. Award 1 mark for a basic outline. Award 2 marks for a detailed outline. • Unable to make the hormone thyroxine (which is produced by the thyroid gland in the neck). • May have issues with metabolism as thyroxine along with other hormones helps to control the rate of metabolism in the body). • Affects foetal and infant growth and development- bone maturation and brain development.	[2]

Question	Answer	Marks
5.	Explain the meaning of the following terms. Award 1 mark for a basic explanation. Award 2 marks for a full explanation which refers to averages. (i) Reference Intake (RI) Answers may refer to • The term 'Reference Intakes' has replaced 'guideline daily amounts' (GDA) which used to appear on food labels • Unless the label says otherwise, RI values are based on average sized people doing an average amount of physical activity. • The values are maximum amounts • They are not individual recommendations & your needs may be different to the RI depending on your age, gender and how physically active you are. • They are displayed as percentages on food packages • Provide a guideline as to the contribution nutrients can make to a balanced diet. Award 1 mark for a basic explanation. Award 2 marks for a full explanation. (ii) Physical Activity Level (PAL) Answers may refer to • The number of Kilojoules/Kilocalories the body uses to fuel physical activity. • The amount of a person's daily activity/exercise carried out during the day. • The physical activity level (PAL) equation is a way to express a person's daily physical activity as a number, and is used to estimate a person's total energy expenditure. • In combination with BMR it can be used to work out the amount of food energy a person needs to consume in order to maintain a particular lifestyle.	[4]

Question	Answer	Marks
6.	Describe two reasons why food may be fortified. Award 0 marks for an unsatisfactory response Award 1 mark for a basic response. Award 2 marks for a good response: A more detailed answer in which some accurate description has been made. Answers could refer to: • To achieve the recommended amounts of nutrients: The aim of fortification is to help the population achieve the recommended amounts of nutrients and fortification is often undertaken to address low intakes of a nutrient. Adding nutrients to foods, particularly staple foods, can increase intakes among most of the population. (accept reference to fluoride in toothpaste if qualified) • To reduce nutrient deficiency: In countries where intakes of certain nutrients are very low, fortification can help to reduce nutrient deficiency diseases. One example is the addition of iodine to salt to decrease iodine deficiency disorders. • To replace nutrients lost during processing: Nutrients lost during food processing may be replaced. This is particularly important if the food was a good source of a nutrient before processing. For example, by law in the UK, iron, thiamin and niacin must be added back to white and brown flour (but not wholemeal) as they are removed with the bran during the milling of wheat to make all flour (except wholemeal). • To produce a substitute product: Nutrients are sometimes added to produce a substitute product with similar nutritive value. For example, calcium is added voluntarily to some soya based drinks sold as a substitute for cow's milk. • To differentiate them from other products (health claims): Foods and drinks may have nutrients added to them in order to differentiate them from other products and to provide a competitive advantage. This may include adding nutrients to products that would not normally be a natural source, such as adding omega-3 fatty acids to breads and fibre to yogurts. Reference: British Nutrition foundation	[4]

SECTION B

Question	Answer	Marks
1. (a)	Explain the difference between soluble and insoluble Non Starch Polysaccharide (NSP). Award 0 marks For a response that is not credit worthy or not attempted. Award 1 mark For a response that shows some understanding, but answer is incomplete or does not give examples to support it. Award 2-3 marks For a response that shows good understanding and a full answer, with supporting examples. Award 4 marks For a response that shows excellent understanding, balanced answer supported with specific examples. Answers may refer to (i) Insoluble Non Starch Polysaccharide. Insoluble fibre includes such foods that cannot be fully digested, such as cellulose. • It comes mainly from plant cell walls. • It does not absorb or dissolve in water • It passes undigested through the small intestine into the bowel, where it is fermented by bacteria. • it increases the weight of stools, provides bulk to faeces to help waste products be passed easily from the body. • They include grains such as wheat, corn and rice, dried fruits, vegetables and pulses. (ii) Soluble Non Starch Polysaccharide. In the intestine soluble fibre dissolves in water to form a gel this thickens and softens the stools / faeces making them easier to pass/eliminate from the body. • The gel like substance is digested by bacteria in the large intestine • Water-soluble fibre may help to reduce the blood levels of cholesterol by binding the bile salts derived from cholesterol, thus reducing the risk of heart disease. • It controls blood sugar levels by slowing down the absorption of sugar, which may help in diabetes. • Examples include pectin, citrus fruits, apples, oats, barley and rye, pulses and dried fruits. Soluble and insoluble NSP can be found in the same foods, but in varying amounts. Do not allow a mark for insoluble can be digested.	[4]

Question	Answer	Marks
(b)	Discuss why an adult's diet should meet the recommended daily intake of Non Starch Polysaccharide (NSP). Award 0 marks For a response that is not credit worthy or not attempted. Award 1 mark For a response that shows little understanding of why an adult's diet should meet the recommended daily intake of Non Starch Polysaccharide (NSP) t Award 2-3 marks For a response that shows some basic understanding of why an adult's diet should meet the recommended daily intake of Non Starch Polysaccharide (NSP) Award 4 marks For a full answer that shows good understanding of why an adult's diet should meet the recommended daily intake of Non Starch Polysaccharide (NSP) Answers could refer to why NSP is needed and / or relate to prevention of disorders/ diseases Why needed to include: • Non Starch Polysaccharide (NSP) is required to aid the passage of stools/faeces during the process of digestion, so not enough would be a risk to health • They need enough to make sure It increases the weight of the stool/faeces as may help to reduce blood cholesterol. • A lack of NSP (less than 12 g per day) is associated with increased risk of bowel disease. • It has the benefit of diluting colonic contents and speeding up transit, giving less time for carcinogenic action, including the development of bacteria which could trigger cancers – so not enough adds to the risk • NSP slows the rate of absorption, thus reducing the risk of diabetes. • If they eat enough it will help lower the GI of other food when they are digested. Diseases and disorders associated with NSP deficiency to include: • Constipation: infrequent bowel movement (fewer than 3 per week) and a transit time for food passing from the mouth to anus, of 5 days or more, with stools averaging below 50 g per day (when it should be above 150 g). • Haemorrhoids: associated with constipation, where small pouches filled with blood appear. • Diverticular disease: this is a condition where the wall of the colon produces a type of blow out, like a car tyre, caused by years of muscles having to strongly contract to transmit and expel small stools associated with a low NSP diet. It usually occurs in later life.	[4]

Question	Answer	Marks
	• Cancer in large bowel cancer: usually of the colon and rectum, caused as a result of adenomas forming. These polyps progress to being carcinomas. Credit comments on increased recommendation from 18g to 24g, Government guidelines 2015 30g or the fact that children require less because they are smaller. Do not allow credit for mentioning conditions such as Chrones.	
2.	It is essential to include a range of micro-nutrients in the daily diet. Describe the role and complimentary actions of micro-nutrients in the diet. Award 0 marks For a response that is not credit worthy or not attempted. Award 1-2 marks Responses will be superficial with little / no justified points raised. Response is likely to be general and focus on one aspect. Award a maximum of 2 marks for a response that only refers to role, and sources of micro-nutrients Award 3-4 marks For a more detailed response showing some understanding of the role and complimentary action between vitamins and minerals in the diet. Discussion though informed may stray from the point but specific knowledge will be evident. At least 2 justified points or 4 plus mentioned more superficially. Award 5-6 marks For a response that shows full / sound understanding of the role and complimentary actions between vitamins and minerals in the diet. Subject specific terminology is used appropriately to give precision to points made. Ways of applying this knowledge is logical and well supported by the use of accurate information/examples. With at least 3 justified points raised or 5 plus more superficially. Candidates should show understanding of the terms micronutrients and complimentary action. This may either be explained as an introduction to the response or might be evident through the explanations given as they work through the question. Answers may include reference to: There are two main complimentary actions (inter-relationships between micro nutrients) (vitamins & minerals) (a) Iron & Vitamin C (b) Calcium, phosphorous and Vitamin D	[6]

Question	Answer	Marks
	<u>Iron and Vitamin C</u> • Iron is an essential component of haemoglobin. The body stores non-haem iron as ferritin. Most of the iron we eat is in the ferric state but it needs to be in the reduced ferrous state for adequate absorption. • Vitamin C assists by promoting reduction to ferrous state, as it is a reducing agent. Once absorbed iron is carried by the blood to the bone marrow where some of it is used for the formation of red blood cells. Haem iron from meat and fish is far better absorbed than the iron in vegetable foods. Vitamin C is the major promoter of absorption but fibre, phytic acid and tannin in tea can all hinder absorption. <u>Ways to apply this knowledge:</u> Iron in red meat, cereals, and green vegetables. Vitamin C in fruit salad & leafy vegetables. So food that contains both are ideal e.g. chocolate orange mousse, liver and oranges, risotto etc. <u>Calcium, phosphorous and Vitamin D</u> • Calcium is needed for normal clotting of blood, functioning of nerves and muscles, heartbeat and the growth and maintenance of bones and teeth (with phosphorous and vitamin D) • The hardness of bones and teeth comes from calcium phosphate. Cartilage is converted to calcium phosphate by calcification. The absorption is controlled by Vitamin D. A fall in blood calcium concentration results in muscle weakness, tetany and hypercalcaemia causing kidney stones. • Calcium consumption is important for children to reach their peak bone mass which can hinder the onset of osteoporosis. Dietary consumption of calcium after menopause has little effect. • Vitamin D aids absorption and can be derived from the action of sunlight on the skin or from margarine and oily fish. Credit can also be given to • Vitamin C and Vitamin E – work together as anti-oxidants • Vitamin B6 needed for absorption of Vitamin 12 • Vitamin B9 and Vitamin B12 work together to produce new blood cells • B1 & B6 required to convert amino acid tryptophan into B3 • Sodium and Calcium both involved in the correct functioning of nerves and muscles • Calcium, Vitamin K AND Protein are all involved in series of reactions that enable blood clotting after injury or bleeding. Do not credit responses linked to macro-nutrients working together.	

Question	Answer	Marks
3.	An increasing number of families are experiencing food poverty. Discuss the implications of food poverty on the health of families. Award 0 marks For a response that is not credit worthy or not attempted. Award 1-2 marks For a response that shows some knowledge and understanding. And one where food poverty will be mentioned superficially with little/no reference made to implications/ specific examples. Award 3-4 marks For a response that shows a clearer understanding and knowledge of the meaning of food poverty; two to three implications will be discussed accurately or 4 more superficially. Specific examples will be given. Award 5-6 marks For a response that shows a more in-depth understanding and knowledge of the meaning of food poverty; clear reference made to implications on range of family members. Specific examples must be given. With at least 3 justified points discussed or 5 plus more superficially. Award 7-8 marks For a response that shows a full understanding and knowledge of the meaning of food poverty; clear reference made to implications on wide range of family members. Specific examples must be given, with accurate reference to nutrients – source and function. With at least 4 justified points discussed or 6 plus more superficially. To obtain full marks a clear understanding of the term food poverty must be included in the answer. Food poverty means that an individual or household isn't able to obtain healthy, nutritious food, or cannot access the food they would like to eat. Despite the increasing choice and affordability of food in the UK, many people eat what they can afford not what they want. Answers may include reference to: • Restricted food choice resulting in poor diet (lack of fresh fruit & vegetables; Lack of HBV protein; Lack of NSP from eating white bread as opposed to wholemeal) • Repeated meal choices – food boredom • Diet related diseases such as heart disease, obesity, diabetes and cancer • Inadequate levels of many vitamins and minerals • Rise in malnutrition / neglect – could mean issues with social services	[8]

Question	Answer	Marks
	- Children from poorer families experiencing hunger and problems accessing food during school holidays; free school meal programmes (under 5s free meals in schools in England) - Access to food banks may increase - Poor performance / achievement in schools or work situations - Increase in use of more economical meals/ ingredients which may not be so nutritious e.g. Economy fish cakes instead of fresh fish etc. Credit any other valid response	
4.	Assess the risks of food induced ill health linked to eating packed lunches in the work place. Suggest ways of limiting the risk factors. Award 0 marks For a response that is not credit worthy or not attempted. Award 1-2 marks Responses will be superficial with little assessment being made. Response is likely to be general and focus on one aspect. Award 3-4 marks A clear response which will have made an assessment of the risks. Suggestions for limiting the risk factors will have been made. At least 2- 3 justified points or 4 plus mentioned superficially. Award 5-6 marks A detailed response is given; clear assessment of the risks has been made supported by ways of limiting the risk factors. Responses will reflect a full explanation with at least 4 plus justified points raised. At least 3 justified points or 5 plus mentioned superficially. Award 7-8 marks An in-depth understanding and assessment of the risks of food induced ill health supported with understanding of how to limit the risks. Answers will be balanced making reference to food poisoning, allergies and intolerance. The assessments are based upon excellent levels of knowledge and understanding. At least 4 justified points or 6 plus mentioned superficially. Answers may include reference to the following - Reference will be made to critical temperatures. - The Danger Zone (5°C to 63°C); Bacteria grow and multiply quickly in temperature from 5°C to 63°C; This process is known as binary fission; bacteria can split in two every 10 minutes. Keeping food between 0°C to 5°C slows down the growth of bacteria.	[8]

Question	Answer	Marks
4. (Cont.)	<u>Risks</u> • Poor personal hygiene practices of person preparing the food • Length of time between preparation and eating as packed lunches often prepared night before. • Length of time packed lunch potentially stored in ambient or above temperatures due to lack of proper storage facilities/ leaving of lunch in works vehicles • Food intended to be eaten at lunch time not eaten until later in the day potentially leading to increased growth of pathogenic food poisoning bacteria /bacteria reaching unsafe limit owing to time factor • Lack of chilled storage facilities the average temperature of food in a lunch box can reach 18°C (danger zone = 5°C-63°C). Risk from pathogenic food poisoning bacteria increased owing to temperature. • From inclusion of high risk foods (cooked meats, mayonnaise, eggs, sausage rolls, pork pies providing pathogenic bacteria with the food/ moisture they require to multiply) • Pathogenic food poisoning bacteria, such as E.coli, salmonella and staphylococcus aureus, multiply at temperatures between 5°C to 63°C). • Perishable lunch products such as cut sandwiches and yoghurt may become unsafe to eat after being left out for two hours. • Given the right conditions of food, moisture, warmth some bacteria can divide into two every ten minutes. This process is known as binary fission. If there is sufficient time, a few bacteria can multiply to such an extent that there are enough to cause food poisoning. For this reason it is essential that high risk foods are not left in the danger zone for longer than is absolutely necessary. • Contamination from shared chilled storage as nobody responsible for its cleaning • Contamination from hands used to eat the food not being washed before eating. • Contamination from desk/key board with increased practice of desk top grazing/hot desking which mean that increased number of people could have sat at the same desk increasing risk of contamination from e.g. staphylococcus aureus, dust • Sharing of food could lead to potential allergic reaction from any of the 14 allergens (celery, molluscs, cereals containing gluten, mustard, crustaceans, nuts, eggs, peanuts, fish, sesame seeds, lupin, soya, milk, sulphur dioxide) • Contamination from lunch box container not being washed between use. • Contamination from an accumulation of dis regarded packaging/un eaten food products. • Ready to eat raw foods: Raw foods such as lettuce or fruit may be contaminated with low-dose pathogens such as E.coli and viruses. They must always be washed in running water before being eaten. (NB cut melons; tomatoes, raspberries, spinach and lettuce have been implicated in food poisoning outbreaks.)	

Question	Answer	Marks
4. (Cont.)	<u>Risk prevention</u> • Avoid use of perishable foods/high risk foods especially in hot temperatures(summer) • Only include perishable foods if facilities to keep chilled in the work place or pack in cool bag/insulated container with an ice pack. • Pack antibacterial wipes /hand gel to enable hands to be wiped before eating. • Freeze drink to which will further help to maintain a lower temperature until the contents are eaten. • If prepared the night before store in fridge (0-5°C) • Uncooked food should be stored in the fridge separately from any ready to eat food • Display Allergen information in the work place • Training of staff to deal with anaphylaxis • All work places should provide rest room/hand washing facilities • Staff should be encouraged to move away from their desk to eat their lunch • All uneaten food /empty packaging should be thrown away. Positives to packed lunches can also be credited Credit any other valid response	

SECTION C

Question	Answer	Marks
1.	Read the case study and answer all questions in the spaces provided. Fred is an 85 year old and until recently he has lived at home. Arthritic knee joints mean that walking become very painful which limited his mobility and his ability to prepare meals for himself. After a series of hospital admissions as a result of falls; along with the worsening of his vascular dementia it was decided that he should move into a nursing home. Analyse Fred's profile to determine if his current nutritional intake is meeting his nutritional needs. Award 0 marks For a response that is not credit worthy or not attempted. Award 1-3 marks Analysis is fairly accurate to determine some of Fred's current needs and requirements. Response makes limited or no reference to how Fred's needs are affected by his life stage/lifestyle. There is little reference to the existing diet, comments are generic in relation to what individuals should eat. Evidence may contain some minor inaccuracies and have some descriptive elements. Award 4-6 marks Analysis is accurate to determining if Fred's current intake is meeting the most significant elements of his c nutritional needs and requirements. Response makes some reference to how Fred's needs are affected by his life stage/lifestyle. There is reference to the existing diet. All judgements and assessments are mainly valid with clear and mostly applied reasoning. Award 7-8 marks Analysis accurately determines if Fred's current intake is fully meeting his current nutritional needs and requirements. Response makes clear reference to how Fred's needs are affected by his life stage/lifestyle. There is an evaluation of the existing diet identifying key issues. All judgements and assessments are valid with clear, detailed and applied reasoning. Responses may include reference to: • Age/gender/life stage Pensioner • Height and weight ratio /Kcal intake • BMI/PAL: BMI=17.5 Making him underweight. A healthy weight for his height would be 59.9kg-81.3kg • Is currently underweight • Being underweight can be especially serious for older people. • It increases the risk of health problems, including bone fracture if they fall. • It weakens the immune system, leaving them more susceptible to infections,	[8]

Question	Answer	Marks
	• It increases the risk of being deficient in important nutrients such as vitamins and minerals. • Occupation: retired builder so strength in muscles may be reduced due to wear and tear so may not feel like or be able to cook for himself • Life stage Pensioner: as people get older, it is common for their appetite to get smaller and they may not feel like eating. • An older person's diet should maintain and promote good health, it's still important to get all the energy and nutrients that the body needs, but less energy is needed. • Sedentary lifestyle due to mobility issues: Lack of exercise (research links sitting for lengthy periods with a whole host of health problems. As well as increasing the risk of poor posture, flexibility, lower back and joint pain it is associated with the increased likelihood of high blood pressure, cardiovascular disease. • Dementia potential forgetting to eat/forgotten they have eaten/difficulty in remembering how to eat. • Limited access to food/food choice/dependency on others to provide meals. • Limited budget/pension affecting food options/eating what can afford not necessarily what is the most nutritious. This may limit protein food options. • Eating habits/reliance on biscuits: • Times of meals governed by time of carers visit • Lack of fresh fruit and vegetables • Lack of fibre – could lead to bowel cancer in older individuals • Fluid intake/type of fluid, lack of water Fred has a high caffeine intake which can cause dehydration • Lacks vitamin B12 which could aid memory loss Credit any other valid response	

Question	Answer	Marks
2.	Assess how the move to a nursing home could improve Fred's diet, health and lifestyle choices. Responses should relate to life stage/lifestyle choices/options. Award 0 marks For a response that is not credit worthy or not attempted. Award 1-4 marks Identification is fairly accurate in determining how moving to a nursing could improve Fred's diet, health and lifestyle choices. There is reference to the most obvious improvements. Evidence may contain some minor inaccuracies and have some descriptive elements. Award 5-8 marks Identification is more accurate in determining how moving to a nursing could improve Fred's diet, health and lifestyle choices. There is clear reference to the most significant improvements. Judgements and assessments are mainly valid with clear and mostly applied reasoning. Award 9-11 marks Identification is mostly accurate in determining how moving to a nursing could improve Fred's diet, health and lifestyle choices. Response makes clear in-depth reference to how these improvements will benefit Fred. affected by his life stage/options. There is an evaluation of the health factors and lifestyle choices identifying key issues. Judgements and assessments are valid with clear, detailed and applied reasoning. Award 12-14 marks Identification is accurate in determining how moving to a nursing could improve Fred's diet, health and lifestyle choices. a Response makes explicit in-depth reference to how these improvements will benefit Fred at this critical life stages. There is in depth evaluation of the health factors and lifestyle choices identifying all key issues. All judgements and assessments are valid with very clear, detailed and applied reasoning. Responses may include reference to: • Need to increase weight. Weighing too little can contribute to a weakened immune system, fragile bones and feeling tired. • Eating in the dining room with other people will make meal times more sociable and help to improve interest in food. • Increased variety of food options owing to food being prepared for him/likely to be a rotational monthly menu/ improve interest in eating. • Fruit & vegetable consumption will improve as these will be included in the meal options. • Fish- aiming for at least two portions of fish a week one of which should be oily. (salmon, fresh tuna, trout, mackerel.)	[14]

Question	Answer	Marks
	(long chain omega 3 fatty acids help to prevent heart disease. Oily fish also good source of Vitamin D important for bone health. • Diet more closely aligned to Eat well guide as chef will have received training in relation to nutrition/meal planning. • People with Dementia often forget to eat/if they have eaten move to nursing home will assist with this as staff there to remind/assist. • Smaller meals and frequent snacks can be offered, as older people who have a loss of appetite often struggle to eat three large meals a day. • Increased calorie intake by eating more energy dense foods like milky puddings and cheesy main courses. • Improved fluid intake as people get older they may not feel thirsty so need to be encouraged to drink coffee/tea served at regular intervals/Water jug in room topped up regularly. Water at meal times. This is important to prevent water infections which can lead to confusion resulting in increased risk of falls. • Drink supplements may be offered to increase nutrient intake • Improvement in appetite and physical fitness as result of opportunity to increase physical activity; organised chair based exercise classes • Improvement in mental well-being through opportunity to join in organised social activities. / make new friends • Increased fresh air as opportunity to join in organised visits/encouraged to sit in the garden area. • Improved mobility encouraged to walk to the dining room for meals/ visits by outside agency physiotherapist. • Staff Will make sure he takes his medication / gets any medical treatment he may need which may well improve his health • Staff will be able to support him with all his daily task giving him more energy and motivation • Safe environment for Fred • Health and Diet improvements increase calorie intake to bring weight into BMI healthy range • Smaller more nutrient dense meal/ snack options • Increased NSP to prevent constipation/diverticular disease • Ensure foods rich in iron are included to prevent iron deficiency/anaemia. • More balanced diet to encourage improvement in appetite avoiding filling up on foods that are high in saturated fat or sugars, such as sugary fizzy drinks, cakes and biscuits. • Increased vitamin& mineral intake to boost immune system Negative points could also be credited • Could feel lonely moving away from the community he has lived in • May refuse to eat/take part in activities as doesn't like the environment Credit any other valid response	

Question	Answer	Marks
3.	Modify the example daily diet to illustrate the improvements which the chef in the nursing home could make. Award 0 marks For a response that is not credit worthy or not attempted. Award 1-2 marks Basic improvements to the example daily diet for Fred have been made. Modifications demonstrate some knowledge of the nutritional needs of a pensioner at his life stage with limited mobility. Award 3-4 marks Some specific improvements to the example daily diet for Fred have been made. Most meal situations have been included. The modifications demonstrate clear knowledge of the nutritional needs of a pensioner at his life stage with limited mobility. Menu is nutritionally balanced, and a range of food commodities are included. Award 5-6 marks Detailed improvements to the example daily diet for Fred have been made. All meal situations are included. The modifications demonstrate in-depth knowledge of the nutritional needs of a pensioner at his life stage with limited mobility. Menu is nutritionally and aesthetically balanced and a wide range of food commodities are included. All suggestions should be appropriate to sustain Fred and be balanced. Responses may include knowledge of: Tips to boost your calorie intake www.nhs.uk keeping your weight up in later life. Try these following healthy yet still high-energy meal and snack ideas: • porridge made with whole (full-fat) milk, with fruit or dried fruit on top • sardines on toast • peanut butter on toast • soups with pulses, pasta or meats • cottage/shepherd's pie • beans on toast with cheese sprinkled on top • milky drinks as a bedtime snack • unsalted nuts Add more calories from healthier foods to your diet to help you gain weight: • sprinkle grated cheese on savoury dishes • add cheese or milk to soups • spread avocado on toast for a high-energy and healthy snack • pour white sauce (made with butter, flour and milk) on fish or vegetables • replace 1 cup of tea or coffee each day with a cup of warm full-fat milk • put milk or butter into mashed potato Credit any other valid response	[6]

Question	Answer	Marks
4.	Justify the improvements that have been made in relation to Fred's diet. Award 0 marks For a response that is not credit worthy or not attempted Award 1-3 marks Basic attempt to justify fitness of purpose of the modifications limited reasoning for judgements made. Award 4-7 marks Some attempt to justify fitness of purpose of the modifications with some reference to Fred's personal needs and accepted guidelines. Some reference to the function of nutrients. Judgements are generally well reasoned. Award 8-10 marks In-depth attempt to justify fitness for purpose of the modifications. Sound reference has been made to Fred's specific nutritional and personal needs. Accurate and well-reasoned reference has been made to the function of nutrients in the body and judgements are clear with detailed accurate reasoning. Responses may include reference to: • Older person's diet should maintain and promote good health, in this case need to promote weight gain. • Portion sizes need to be small so as not to be off putting. • Meals need to be appealing owing to loss in appetite • Increase in vitamins and minerals to boost immune system • Susceptibility to infection due to age/environment need to increase vitamin C • Increase in NSP to prevent constipation/ diverticular disease. • Fluid intake to prevent dehydration/ water infections. • Foods need to be rich in nutrients as appetite is likely to be poor. • Ensure foods rich in mineral iron are included to prevent iron deficiency/anaemia. • Eating of regular small well balanced meals from the main food groups to minimise intake of high fat and sugar rich foods • Energy from slow release carbohydrates Where refence is made to nutrients/ nutrient function these should be named nutrients and functions should be specific There is no need for elderly people to only eat soft smooth foods unless they have a digestive disorder. Credit any other valid response.	[10]